UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/728,889	12/02/2000	Victor R. Stefanovic	199-1306	5704

7590 10/24/2003

Randolph A. Smith
Smith Patent Office
1901 Pennsylvania Ave. N.W., Suite 200
Washington, DC 20006

EXAMINER	
GONZALEZ, JULIO C	
ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 10/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/728,889	STEFANOVIC ET AL.	
	Examiner	Art Unit	
	Julio C. Gonzalez	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

P riod for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 July 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *14* is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagayama et al in view of Kuznetsov.

Nagayama et al discloses a system having an induction machine (see title) having an inverter 40 and being connected to the induction machine 50, a processor (see figures 29, 36), which is use for controlling the inverter and the poles can be change to obtain a plurality of pole combinations (see abstract). Even though Nagayama et al teaches that it is known to change the pole combinations of electrical machines, Nagayama et al does not explicitly recites using pole phase modulation.

On the other hand, Kuznetsov discloses for the purpose of utilizing the entire periphery for speed control applications without the necessity for large dead zones that induction machines may use pole phase modulation (see abstract) and that cage rotor may also be used (column 2, line 6).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a system using an induction machine as disclosed by Nagayama et al and to explicitly disclose using pole phase modulation for the purpose of utilizing the entire periphery for speed control applications without the necessity for large dead zones as disclosed by Kuznetsov.

3. Claims 2-4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagayama et al and Kuznetsov as applied to claim 1 above, and further in view of Miyazaki et al.

The combined system discloses all of the elements above. However, the combined system does not disclose using vector control.

On the other hand, Miyazaki et al discloses for the purpose of minimizing the cost of generators and effectively determined the position of the poles that a generator may be controlled using vector control (see figures 1A, 1B).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined system as disclosed above and to modify the invention by using vector control for the purpose of minimizing the cost of generators and effectively determined the position of the poles as disclosed by Miyazaki et al.

4. Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagayama et al and Kuznetsov as applied to claim 1 above, and further in view of Le.

The combined system discloses all of the elements above. However, the combined system does not disclose using a digital signal processor.

On the other hand, Le discloses for the purpose of providing precise synchronized control in an electrical machine, a digital signal processor 70. Moreover, Le discloses teaches that it is known to use sensors 16 for providing a position indicative of the rotor and the stator (see abstract & figure 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined system as disclosed above and to modify the invention by using a digital signal processor for the purpose of providing precise synchronized control in an electrical machine as disclosed by Le.

5. Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagayama et al and Kuznetsov as applied to claim 1 above, and further in view of Miller et al.

The combined system discloses all of the elements above. However, the combined system does not disclose using a toroidally wound stator.

On the other hand, Miller et al discloses for the purpose of promoting heat dissipation, a toroidally wound stator (see figure 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined system as disclosed above and to use a toroidally wound stator for the purpose of promoting heat dissipation as disclosed by Miller et al.

6. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagayama et al and Kuznetsov as applied to claim 1 above, and further in view of Miyazaki et al and Le.

The combined system discloses all of the elements above. However, the combined system does not disclose using a digital signal processor and using vector control.

On the other hand, Miyazaki et al discloses for the purpose of minimizing the cost of generators and effectively determined the position of the poles that a generator may be controlled using vector control (see figures 1A, 1B).

However, neither Nagayama nor Kuznetsov nor Miyazaki discloses a position sensor.

On the other hand, Le discloses for the purpose of providing precise synchronized control in an electrical machine, a digital signal processor 70. Moreover, Le discloses teaches that it is known to use sensors 16 for providing a position indicative of the rotor and the stator (see abstract & figure 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined system as disclosed above and to modify the invention by using vector control for the purpose of minimizing the cost of generators and effectively determined the position of the poles as disclosed by Miyazaki et al and to use a position sensor for the purpose of providing precise synchronized control in an electrical machine as disclosed by Le.

7. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagayama et al, Kuznetsov, Miyazaki and Le as applied to claim 11 above, and further in view of Miller et al.

The combined system discloses all of the elements above. However, the combined system does not disclose using a toroidally wound stator.

On the other hand, Miller et al discloses for the purpose of promoting heat dissipation, a toroidally wound stator (see figure 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined system as disclosed above and to use a toroidally wound stator for the purpose of promoting heat dissipation as disclosed by Miller et al.

Allowable Subject Matter

8. Claim 14 is allowed.

Response to Arguments

9. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio C. Gonzalez whose telephone number is (703) 305-1563. The examiner can normally be reached on M-F (8AM-5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Nicholas Ponomarenko
Primary Examiner
Technology Center 2800

Jcg

October 15, 2003